

REMARKS/ARGUMENTS

Reexamination of the captioned application is respectfully requested.

A. SUMMARY OF THIS AMENDMENT

By the current amendment, which is a submission for an RCE, Applicants basically:

1. Thank the Examiner for the allowance of independent claim 18, and for the indication of allowable subject matter in claims 8 – 12.
2. Cancel claims 7, 16, 17 and 19 without prejudice or disclaimer.
3. Amend claims 1, 5, 6, 8, 10 and 18.
4. Add new claims 20-24.
5. Respectfully traverse all prior art rejections.

B. AMENDMENTS TO THE CLAIMS

Basically, in this amended set of claims, Claim 1 has been amended to recite that the analogue signal which is sampled and then converted into a digital signal is generically an analogue signal representative of the distance travelled by the emitted signal and the object diffused signal. Further, independent claim 1 has been amended to recite that either in the distance measuring steps and in the calibration step the prefixed distance value is associated with at least one sample (representing the position of a point along the scanning line) of the signal representative of the distance and with a numerical value of said at least one sample.

Claim 6 has been amended, e.g., to recite that, in the calibration step, a plurality of samples are extracted and for each sample a corresponding numerical value is obtained.

Claims 8 and 10 have been re-worded in order to make them more clearly readable.

Claim 18, while being allowed, has been amended consistently with claim 1 and the wording has been slightly changed in order to make it more clearly readable.

New claims 20-23 specify that the analogue signal representative of the distance travelled by the emitted signal and the object diffused signal can be, respectively:

- the detected signal diffused by the object (in the distance measuring steps) or the detected signal diffused by the surface of known reflectance (in the calibration step), or alternatively
- the comparison signal obtained comparing the detected signal diffused by the object with the emitted signal (in the distance measuring steps) or the comparison signal obtained comparing the detected signal diffused by the surface of known reflectance with the emitted signal (in the calibration step).

New claim 24 recites a features previously recited in claim 1 but now deleted from amended claim 1.

C. PATENTABILITY OF THE CLAIMS

Claim 18 has been allowed, but has been amended, e.g., as described in section B supra. Claims 8 – 12 were objected to as being dependent upon a rejected base claim, but indicated as having allowable subject matter. Claims 1 – 2, 5 – 7, 13 – 17, and 19 stand rejected under 35 USC §102(e) as being anticipated by US Patent 5,006,721 to Cameron. All prior art rejections are respectfully traversed.

The Applicant believes that claim 1 as amended herein is not anticipated or suggested by US Patent 5,006,721 to Cameron. Contrary to the incorrect conclusion reached in the office action, the details of the detection and sampling steps of the Applicant's claims are not present in Cameron. In fact, the details of the calibration and

distance measurements steps of the Applicant's claims are different from the calibration and distance measurement steps taught by Cameron.

Specifically, Cameron does not disclose nor suggest associating, in the calibration step, a prefixed distance value with at least one calibration sample of a calibration distance signal and at least one numerical value of said at least one calibration sample (see step e) of claim 1) and then, in the distance measuring steps, to identify the prefixed distance value which has been associated, in the previous calibration step, with at least one sample of the signal representative of the distance of the object and with the numerical value of this at least one sample and associate this prefixed distance value to this last numerical value (see steps f) and g) of claim 1). In other words. Cameron does not disclose providing a distance value for any given combination of sample of the signal representative of the distance and numerical value of this sample. Differently from the Applicant's claims, Cameron discloses providing, in the calibration and distance measurement steps, for a predetermined corrected range value for any given combination of measured range and signal intensity values (see column 9. lines 45 to 48). Therefore, Cameron does not anticipate nor suggest the details of the calibration and distance measurement steps of claim 1, which therefore should be considered as being novel and non obvious over Cameron.

Further details of the calibration steps are recited in the amended claim 6. The Applicant believes that these further details are not anticipated nor suggested by Cameron. Specifically, claim 6 recites that in the calibration steps a plurality of samples, each representative of a corresponding point of the scanning line, are extracted from the calibration distance signal. Differently from the Applicant's claim 6, Cameron teaches using one point of the scanning line for calibration and measurement purposes. In other words, Applicant's claim 6 provides for a distance value for each point of a plurality of

points of the scanning line, whereas Cameron provides for a corrected distance value for only one point of the scanning line.

Applicant's claims achieve a distance measurement which is more reliable than those achievable by Cameron. In fact, the use of a plurality of samples allows to achieve a reliable distance measurement for each point of the scanning line, thus for example allowing the detection of the profile of the object. Differently, Cameron obtains a reliable distance measurement for only one point of the scanning line. For example, should this point be at the central portion of the scanning line, Cameron would not achieve a reliable distance measurement of the points at the end portions of the scanning line because, due to the geometry of the detection system, this would detect an amount of light which is lower than the emitted light, thus affecting the distance measurement at these end points.

Further, Applicant considers that claim 18 should still be allowed since the amendments thereto are but minor.

D. MISCELLANEOUS

In view of the foregoing and other considerations, all claims are deemed in condition for allowance. A formal indication of allowability is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

DE RENZIS
Appl. No. 09/437,469

Respectfully submitted,

NIXON & VANDERHYE P.C.

By:


H. Warren Burnam, Jr.
Reg. No. 29,366

HWB:lsh
1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100